



Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449A/PTO

(Use as many sheets as necessary)

Sheet

1

o

6

Application Number

Complete if Known

10/731,759

Filing Date

December 8, 2003

First Named Inventor

David J. King et al.

Art Unit

1645

Examiner Name

Not Yet Assigned

Attorney Docket Number

CARP0007-101

Examiner Signature	/Parithosh K Tungaturthi/	Date Considered	05/17/2007
-----------------------	---------------------------	--------------------	------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 801.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet	2	of	6
-------	---	----	---

Complete if Known

Application Number	107/31,759
Filing Date	December 8, 2003
First Named Inventor	David J. King et al.
Art Unit	1645
Examiner Name	Not Yet Assigned
Attorney Docket Number	CARP0007-101

U.S. PATENT DOCUMENTS

[illegible]

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ² - Number ⁴ - Kind Code ⁵ (if known)				
/PKT/	AL	EP 0 392 376 A2	10/17/1990	American Cyanamid Company		Yes
	AM	EP 0 392 745 B1	10/17/1990	American Cyanamid Company		Yes
	AN	WO 86/01533	03/13/1986	Celltech Limited		Yes
	AO	WO 89/01476	02/23/1989	Celltech Limited		Yes
	AP	WO 89/01974	03/09/1989	Celltech Limited		Yes
	AQ	WO 90/09195	08/23/1990	Celltech Limited		Yes
	AR	WO 91/09967	07/11/1991	Celltech Limited		Yes
	AS	WO 92/01059	01/23/1992	Celltech Limited		Yes
	AT	WO 92/22583	12/23/1992	Celltech Limited		Yes

Examiner Signature	/Parithosh K Tungaturthi/	Date Considered	05/17/2007
-----------------------	---------------------------	--------------------	------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 801.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of Information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet	3	of	6
-------	---	----	---

Complete if Known

Application Number	10/731,759
Filing Date	December 8, 2003
First Named Inventor	David J. King et al.
Art Unit	1645
Examiner Name	Not Yet Assigned
Attorney Docket Number	CARP0007-101

U.S. PATENT DOCUMENTS

[illegible]

FOREIGN PATENT DOCUMENTS

[illegible]

**Examiner
Signature**

/Parithosh K Tungaturthi/

Date
Considered

05/17/2007

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kind Codes of USPTO Patent Documents at www.uspto.gov or MPEP 801.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 18 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)		Application Number	10/731,759
		Filing Date	December 8, 2003
		First Named Inventor	David J. King et al.
		Art Unit	1645
		Examiner Name	Not Yet Assigned
		Attorney Docket Number	CARP0007-101
Sheet	4	of	6

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
/PKT/	AW	ABRAHAM, R., ET AL., "Screening and kinetic analysis of recombinant anti-CEA antibody fragments," <i>J. Immunol. Methods</i> , 183:119-125, (1995)	
	AX	ABUCHOWSKI, A., ET AL., "Alteration of Immunological Properties of Bovine Serum Albumin by Covalent Attachment of Polyethylene Glycol," <i>J. Biol. Chem.</i> , 252(11):3578-3581, (1977)	
	AY	ABUCHOWSKI, A., ET AL., "Effect of Covalent Attachment of Polyethylene Glycol on Immunogenicity and Circulating Life of Bovine Liver Catalase," <i>J. Biol. Chem.</i> , 252(11):3582-3586, (1977)	
	AZ	AMIT, A.G., ET AL., "Three-Dimensional Structure of an Antigen-Antibody Complex at 2.8 Å Resolution," <i>Science</i> , 233:747-753, (1986)	
	BA	BENHAR, I., ET AL., "Mutations of Two lysine Residues In the CDR Loops of a Recombinant Immunotoxin That Reduce Its Sensitivity to Chemical Derivatization," <i>Bioconjugate Chem.</i> , 5:321-326, (1994)	
	BB	BOWIE, J.U., ET AL., "Deciphering the Message in Protein Sequences: Tolerance to Amino Acid Substitutions," <i>Science</i> , 247:1306-1310, (1990)	
	BC	BURGESS, W.H., ET AL., "Possible Dissociation of the Heparin-binding and Mitogenic Activities of Heparin-binding (Acidic Fibroblast) Growth Factor-1 from Its Receptor-binding Activities by Site-directed Mutagenesis of a Single Lysine Residue," <i>J. of Cell Biol.</i> , 111:2129-2138, (1990)	
	BD	CHISWELL, D.J., ET AL., "Phage antibodies: will new 'coliclonal' antibodies replace monoclonal antibodies," <i>J. Tibtech.</i> , 10:80-84, (1992)	
	BE	DELGADO, C., ET AL., "Enhanced tumour specificity of an anti-carcinoembryonic antigen Fab' fragment by poly(ethylene glycol) (PEG) modification," <i>Br. J. Cancer</i> , 73:175-182, (1996)	
	BF	FRANCIS, G.E., ET AL., "PEG-Modified Proteins in Stability of Protein Pharmaceuticals: <i>In Vivo</i> Pathways of Degradation and Strategies for Protein Stabilization," Ahern, T.J. et al. (eds.), Plenum, New York, Chapter 8, 235-263, (1991)	
	BG	GOODSON, R.J., ET AL., "Site-Directed Pegylation of Recombinant Interleukin-2 at its Glycosylation Site," <i>Bio Technol.</i> , 8:343-346, (1990)	

Examiner Signature	/Parithosh K Tungaturthi/	Date Considered	05/17/2007
--------------------	---------------------------	-----------------	------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Substitute for form 1449B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT		<i>Application Number</i>	10/731,759
		<i>Filing Date</i>	December 8, 2003
		<i>First Named Inventor</i>	David J. King et al.
		<i>Art Unit</i>	1645
		<i>Examiner Name</i>	Not Yet Assigned
(Use as many sheets as necessary)		<i>Attorney Docket Number</i>	CARP0007-101
Sheet	5	of	6

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
/PKT/	BH	HERSHFIELD, M.S., ET AL., "Use of site-directed mutagenesis to enhance the epitope-shielding effect of covalent modification of proteins with polyethylene glycol," <i>Proc. Natl. Acad. Sci. USA</i> , 88:7185-7189, (1991)	
	BI	JANEWAY, C.A., ET AL., "Structure of the Antibody Molecule and the Immunoglobulin Genes," <i>Immuno. Biology</i> , 4 th Edition, Elsevier Science Ltd., London/Garland Publishing, New York, 82-83, (1999)	
	BJ	KENNY, J.W., ET AL., "Cross-Linking of Ribosomes Using 2-Iminoethanol (Methyl 4-Mercaptobutyrimidate) and Identification of Cross-Linked Proteins by Diagonal Polyacrylamide/Sodium Dodecyl Sulfate Gel Electrophoresis," <i>Methods in Enzymology</i> , 59:534-550, (1979)	
	BK	KITAMURA, K., ET AL., "Chemical Engineering of the Monoclonal Antibody A7 by Polyethylene Glycol for Targeting Cancer Chemotherapy," <i>Cancer Res.</i> , 51:4310-4315, (1991)	
	BL	KUAN, C-T, ET AL., "Pseudomonas Exotoxin A Mutants: Replacement of Surface Exposed Residues in Domain II with Cysteine Residues that can be Modified with Polyethylene Glycol in a Site-Specific Manner," <i>J. Biol. Chem.</i> , 269(10):7610-7616, (1994)	
	BM	LAZAR, E, ET AL., "Transforming Growth Factor α : Mutation of Aspartic Acid 47 and Leucine 48 Results in Different Biological Activities," <i>Molecular and Cellular Biology</i> , 8:1247-1252, (1988)	
	BN	LING, T.G.I., ET AL., "A General Study of the Binding and Separation in Partition Affinity Ligand Assay, Immunoassay of β_2 -Microglobulin," <i>J. Immunol. Methods</i> , 59:327-337, (1983)	
	BO	LYONS, A., ET AL., "Site-specific attachment to recombinant antibodies via introduced surface cysteine residues," <i>Prot. Eng.</i> , 3:703-708, (1990)	
	BP	MORPURGO, M., ET AL., "Preparation and Characterization of Poly(ethylene glycol) Vinyl Sulfone," <i>Bioconjugate Chem.</i> , 7:363-368, (1996)	
	BQ	NUCCI, M., ET AL., "The therapeutic value of poly(ethylene glycol)-modified proteins," <i>Adv. Drug Delivery Revs.</i> , 6:133-151, (1991)	
	BR	PANKA, D.J., ET AL., "Variable region framework differences result in decreased or increased affinity of variant anti-digoxin antibodies," <i>Proc. Natl. Acad. Sci. USA</i> , 85:3080-3084, (1988)	

Examiner Signature	/Parithosh K Tungaturthi/	Date Considered	05/17/2007
-----------------------	---------------------------	--------------------	------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Substitute for form 1449B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT		<i>Application Number</i>	10/766,718
		<i>Filing Date</i>	January 27, 2004
		<i>First Named Inventor</i>	Charles E. Hart et al.
		<i>Art Unit</i>	1644
		<i>Examiner Name</i>	Not Yet Assigned
(Use as many sheets as necessary)		<i>Attorney Docket Number</i>	CELL0001-106
Sheet	6	of	6

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
/PKT/	BS	PEDLEY, R.B., ET AL., "The potential for enhanced tumour localization by poly(ethylene glycol) modification of anti-CEA antibody," <i>Br. J. of Cancer</i> , 70:1126-1130, (1994)	
	BT	RUDIKOFF, S., ET AL., "Single amino acid substitution altering antigen-binding specificity," <i>J Proc. Natl. Acad. Sci. USA</i> , 79:1979-1983, (1982)	
	BU	SANDIE and MICHAELSEN, "Engineering the Hinge Region to Optimize Complement-Induced Cytolysis," <i>Antibody Engineering, Borregaard (Ed.)</i> , W.H. Freeman and Company, New York, including p. 71, (1992)	
	BV	TAO and MORRISON, "Studies of Aglycosylated Chimeric Mouse-Human IgG," <i>J. of Immunol.</i> , 143:2595-2601, (1989)	
	BW	TURNER, A., ET AL., "Comparative biodistributions of indium-111-labelled macrocycle chimeric B72.3 antibody conjugates in tumour-bearing mice," <i>Br. J. Cancer</i> , 70:35-41, (1994)	
	BX	WILKINSON, I., ET AL., "Tolerogenic polyethylene glycol derivatives of xenogeneic monoclonal immunoglobulins," <i>Immunol. Lettts.</i> , 15:17-22, (1987)	
	BY	WOGHIREN, C., ET AL., "Protected Thiol-Polyethylene Glycol: A New Activated Polymer for Reversible Protein Modification," <i>Bioconjugate Chem.</i> , 4:314-318, (1993)	
	BZ	ZALIPSY, S., ET AL., "Use of Functionalized Poly(Ethylene Glycol)s for Modification of Polypeptides," in <i>Poly(ethylene glycol) Chemistry: Biotechnical and Biomedical Applications</i> , Harris, J.M. (ed.), New York, Chapter 21, pp. 347-370 (1992)	
	CA	ZAPATA, ET AL., "Site-Specific Coupling of Monomethoxypoly(ethylene glycol) to a single-Sulfhydryl Human FAB'," <i>FASEB J.</i> , 9:A1479 (1995)	
	CB	PCT International Search Report dated April 8, 1998 for International Application No. PCT/GB1997/03400, International Filing Date: October 12, 1997	

Examiner Signature	/Parithosh K Tungaturthi/	Date Considered	05/17/2007
--------------------	---------------------------	-----------------	------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.